outputs include total costs (Singapore dollars (SGD); 1 SGD=0.82 USD), IFIs avoided, life-years saved, and incremental cost-effectiveness of posaconazole versus fluconazole/ itraconazole. A probabilistic sensitivity analysis (PSA) was conducted, where probabilities of IFI, IFI-related death, and 100-day other cause mortality were assigned beta distributions from trial data. **RESULTS:** Total costs of prophylaxis with fluconazole/ itraconazole and posaconazole were SGD 4,475 and SGD 4,999, respectively. Corresponding health outcomes were 0.11 and 0.05 IFIs and 2.44 and 2.51 life-years. Incremental cost-effectiveness ratios for posaconazole were SGD 8,150 per IFI avoided and SGD 7,526 per life-year saved. Posaconazole was cost-effective compared to fluconazole/ itraconazole in 94% of PSA simulations at a threshold of SGD 80,000 (commonly cited threshold in Singapore). **CONCLUSIONS:** Use of posaconazole in place of fluconazole/ itraconazole for prevention of IFIs in a high-risk neutropenic population is cost-effective at a willingness-to-pay threshold of SGD 80,000 per life-year saved in Singapore.

PCN63

ASSOCIATION BETWEEN OVERALL INCREMENTAL COST AND SURVIVAL BENEFIT OF SECOND LINE CHEMOTHERAPY/BIOLOGICS TREATMENT AMONG ELDERLY MEDICARE METASTATIC COLON CANCER PATIENTS

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OBJECTIVES: To examine the overall incremental cost and survival benefit associated with the receipt of second line chemotherapy/biologics (Tx2) among elderly Medicare metastatic colon cancer (mCC) patients who had received first line chemotherapy/biologics treatment (Tx1). **METHODS:** Elderly (66+) SEER-Medicare patients diagnosed with mCC in 2003-2007 were identified and followed until death or 12/31/09. The analysis was restricted to patients who received any chemotherapy/biologics treatment. Cox regression and partitioned least squares regression were utilized to obtain the incremental survival benefit and the overall incremental cost associated with the receipt of Tx2 within a five-year period, respectively. The regressions controlled for patient demographic and clinical characteristics including cancer related measures, Charlson comorbidity index and proxy for poor performance status. Bootstrapping was used to produce 95% confidence intervals (CI). **RESULTS:** Of the 3,266 elderly Medicare mCC who received Tx1, 2,744 (84%) died within the observation period; 1,440 (44%) received Tx2; 274(8%) received subsequent treatments. The incremental survival benefit associated with the receipt of Tx2 was 0.631 years (CI: 0.517 – 0.761), and the associated overall incremental cost was $107,027 (CI: 93,401 – 120,887). The incremental cost-effectiveness ratio for Tx2 was $169,722 per life year gained (CI: 137,139 – 208,134). **CONCLUSIONS:** The estimated survival benefit of receiving second line chemotherapy/biologics treatment ranges from 6 to 9 months, which is consistent with evidence from clinical trials. This improved survival was associated with costs that are slightly above $100,000.

PCN64

COST-EFFECTIVENESS OF IPILIMUMAB IN PREVIOUSLY TREATED PATIENTS FOR ADVANCED MELANOMA IN PORTUGAL

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BACKGROUND: Metastatic melanoma (MM) is the deadliest form of skin cancer. It's associated with high mortality with a median overall survival (OS) of 6 to 9 months. Ipilimumab is the first agent to improve the survival of metastatic melanoma patients and to provide long-term benefit to a proportion of patients treated within phase II/III studies and expanded access programs. **OBJECTIVES:** To evaluate the cost-effectiveness of ipilimumab in previously treated patients for advanced melanoma compared to Best Supportive Care (BSC) from a Portuguese national payer perspective. **METHODS:** A three-state Markov model with stable disease, progression and death was developed. The model assumed three-week cycles, and the analysis assumed a lifetime time horizon. Costs and consequences were discounted at 5%. Patient-level data from the pivotal Phase III MDX010-20 trial was used to describe the survival of ipilimumab 3mg/kg and BSC (based on the gp100 arm of the trial). Extrapolation methods were used to model long-term survival beyond the trial. Clinical practice and resource utilization were assessed from a survey of Portuguese oncologists and dermatologists. Unit costs were obtained from official sources and outcomes were described in life years (LY) gained. One-way and probabilistic SA were also undertaken. **RESULTS:** Ipilimumab was associated with an additional gain of 1.29 LY when compared to BSC, with an incremental cost-effectiveness ratio of €53,579/LY. Results were most sensitive to different survival extrapolation assumptions and the treatment cost. Probabilistic SA showed a >95% likelihood that ipilimumab is cost-effective at a willingness to pay threshold of €59,000/LY. **CONCLUSIONS:** Ipilimumab offers a significant survival benefit when compared with BSC, but at a higher cost. Given the high unmet need, small number of advanced melanoma patients and robust sensitivity analyses; it is likely that ipilimumab represents a cost-effective treatment for previously treated advanced melanoma patients in Portugal.

PCN65

COST-EFFECTIVENESS OF PHARMACOKINETIC DOSING OF 5-FLUOROURACIL IN METASTATIC COLORECTAL CANCER IN THE UNITED KINGDOM

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OBJECTIVES: Dosing of chemotherapy regimens using 5-fluorouracil (5-FU) in patients with metastatic colorectal cancer (mCRC) is based on body surface area (BSA), which has been shown to yield suboptimal plasma 5-FU levels. Pharmacokinetic (PK) monitoring of 5-FU shows promise in terms of optimal dosing, but its cost-effectiveness is unknown. This study performs a cost-effectiveness analysis of PK dosing versus BSA dosing of 5-FU among patients with mCRC in the UK. **METHODS:** A decision tree model was used to perform a counterfactual simulation of the cost-effectiveness of PK versus BSA dosing of 5-FU in standard chemotherapy regimens for mCRC in the UK population. All patients were assumed to receive first-line therapy for 6 or 12 cycles or until progression, after which they received standard post-first-line chemotherapy and subsequent palliative care until death. Costs were estimated from the perspective of the national health system as payer, were drawn from the literature and publically available national unit cost estimates. Effectiveness was quality adjusted life years (QALY), with utilities estimated from the literature. Discounting was performed at 3% per year. Incremental cost-effectiveness ratios comparing PK to BSA dosing were computed for the six most common chemotherapy regimens that utilize 5-FU. **RESULTS:** The average ICER across all regimens and weighted by their current distribution was £7,336 per incremental QALY gained. The ICER for lifetime discounted incremental cost per incremental QALY for PK versus BSA dosing was £3,467 for a FOLFOX4 regimen, £3,594 for a FOLFOX6 regimen, £23,428 for FOLFIRI, £3,508 for FOLFOX6 + bevacizumab, £21,874 for FOLFIRI + bevacizumab, and £28,862 for a 5-FU + leucovorin chemotherapy regimen. **CONCLUSIONS:** PK dose management of 5-FU based chemotherapy regimens for patients with mCRC appears cost-effective from a UK national payer perspective. Cost-effectiveness was driven in part by better efficacy and reduced adverse events.

PCN66

COST-EFFECTIVENESS AND COST-UTILITY ANALYSIS OF SUNITINIB VERSUS SORAFENIB AND BEVACIZUMAB + INTERFERON-ALFA AS FIRST-LINE TREATMENT FOR METASTATIC RENAL CELL CARCINOMA IN ECUADOR

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OBJECTIVES: Metastatic renal cell carcinoma (mRCC) is one of the most common adult malignancies. Overall survival (OS) without treatment ranges from 6 to 12 months and in Ecuador, 269 patients were estimated in 2008 with mRCC. The aim of this study was to assess the cost-effectiveness of first-line therapies for patients with mRCC from the payer's perspective over five years. **METHODS:** Cost–effectiveness and cost-utility analyses were developed using a Markov model to compare within a six-week cycle: sunitinib (50mg/day, four weeks treatment and two week off) versus sorafenib (800mg/day) and bevacizumab (10mg/kg bi-weekly) + IFN (9MU every 3 weeks). Model contains 5 health states (first-line treatment-no progression-, second-line treatment, palliative care, death due to mRCC and death due to other causes). It simulates overall costs, progression free-years (PFY), life years gained (LYG) and Quality Adjusted Life Years (QALYs) gained. Transition probabilities/utilities were obtained from previous published trials. Resource use and costs data was obtained from National Ecuadorian Health Formulary (Minister of Health 2012) which includes costs data from MoH Centers, IESS, Military Hospital and Police Hospital). Official Epi data from the Ecuadorian Institute of Social Security (IESS), Globocan, SOLCA, and other local institutions were considered. Both costs and effectiveness were discounted using a 5% annual rate. **RESULTS:** First-line treatment with sunitinib showed the highest PFY, LYG and QALYs (1.27; 2.35; 1.56 years, respectively) followed by bevacizumab+IFN- (1.11; 2.22; 1.45 years) and sorafenib (0.81; 2.26; 1.43 years). Expected health care costs related to sunitinib resulted lower: US$72,599 versus US$111,286 for sorafenib and US$ 192,208 for bevacizumab+IFN. Other costs related with therapy administration, caregivers and adverse events were also lower with sunitinib. Probabilistic sensitivity analyses showed robustness of these results **CONCLUSIONS:** Sunitinib is cost–saving among the new agents for patients with mRCC, achieving higher clinical outcomes and lower costs in Ecuador.

PCN67

ECONOMIC EVALUATION OF DENOSUMAB VERSUS ZOLEDRONIC ACID (ZA) IN THE PREVENTION OF SKELETAL-RELATED EVENTS (SRE) IN PATIENTS WITH PROSTATE CANCER WITH BONE METASTASIS (BM) IN MEXICO

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OBJECTIVES: Prevention of the painful, debilitating and costly skeletal complications of BM is an important therapy goal. We aimed to evaluate the cost-effectiveness of denosumab (120mg Q4W) versus ZA (4 mg Q4W) in the prevention of SRE in prostate cancer patients with BM from the public health care setting in Mexico. **METHODS:** A three-state (on/off treatment and dead) lifetime Markov model with 4-week cycles was developed in order to estimate the incremental cost-effectiveness ratio (ICER) per SRE avoided. The real-world SRE rates in ZA-treated patients were derived from a large commercial database and used together with the trial-based treatment effect for denosumab versus ZA to estimate the denosumab SRE rate. ZA acquisition cost was gathered from local public tenders. Unit cost for medical consultation, drug´s administration and laboratory tests were obtained from official lists. Diagnosis-related group data were used to assess the costs attributable to SRE. Costs are expressed in 2012 Mexican pesos. Overall survival was similar between the treatment arms of